

IN THE CLAIMS

Please amend the claims as follows:

Claims 1-38 (Canceled).

Claim 39 (New): An opening/closing mechanism arranged in a substrate processing device, which detaches a lid from a main body of a SMIF type clean box including the main body and the lid on which the substrate is loaded, so as to execute the processing on the substrate processing device, and detachably attaches the lid which is located at a bottom portion of the main body, to an opening provided at the bottom portion of the main body,

wherein the lid of the clean box includes a cam plate and a latch member that moves to protrude from the lid and to be drawn into the lid, by a rotation of the cam plate, and

the main body includes a latch hole for receiving the latch member protruding from the lid so as to lock the lid to the main body, and

the opening/ closing mechanism includes a port door on which the lid of the clean box is mounted, a raising/ lowering device which executes the raising/ lowering of the port door and includes a rotating shaft having a latch pin for rotating the cam plate and having a protrusion fittingly inserted into a non-circular shaped receiving hole provided onto the lid, and the latch pin is located at a position displaced from the protrusion and

wherein the protrusion at the rotating shaft is inserted into the non-circular shaped receiving hole, the port door and the lid are coupled therewith by rotating the rotating shaft to engage the protrusion with the non-circular shaped receiving hole and thereby the raising/ lowering device exerts a down force onto the lid, the lid of the clean box mounted on and coupled with the port door is vertically lowered to be detached from the main body by vertically lowering the port door by the raising/lowering device, and the substrate loaded onto the lid is lowered at a predetermined height to be processed.

Claim 40 (New): The opening/closing mechanism according to claim 39, wherein the protrusion includes a brim portion at a tip thereof; and

the brim portion is engaged with a seat of the non-circular shaped receiving hole by a rotation of the rotating shaft.

Claim 41 (New): The opening/closing mechanism according to claim 40, wherein a an operation to move the latch member to protrude from the lid and an engagement between the brim portion of the protrusion and the seat of the non-circular shaped receiving hole are simultaneously executed by the rotation of the rotating shaft,

and an operation to draw the latch member into the lid and a releasing of the engagement between the brim portion of the protrusion and the seat of the non-circular shaped receiving hole are simultaneously executed by a second rotation of the rotating shaft.

Claim 42 (New): The opening/closing mechanism according to claim 39, wherein the rotating shaft is vertically movable independent from the raising/ lowering device, the protrusion includes a brim portion at a tip portion thereof and a root portion of which cross-sectional area is smaller than that of the brim portion,

the rotating shaft is rotated in a state that a surface configuring a seat of the non-circular shaped receiving hole faces to a surface of the brim portion with an interval, and

the rotating shaft is lowered to engage the brim portion of the protrusion with the seat of the non-circular shaped receiving hole.

Claim 43 (New): The opening/closing mechanism according to claim 42, wherein a protruding operation and a being drawn operation of the latch member, and an engagement and a releasing of the engagement between the brim portion of the protrusion and the seat of

the non-circular shaped receiving hole are simultaneously executed by the rotation of the rotating shaft.

Claim 44 (New): The opening/closing mechanism according to claim 39, wherein the raising / lowering device includes an actuator and a latch open/ close shaft, and the latch open/ close shaft is vertically driven by the actuator to raise or lower the port door, and the rotating shaft is located inside the latch open/ close shaft.